

ORIGINAL ARTICLE

PREMATURE NEWBORN POST-DISCHARGE MATERNAL STRESS ESTRESSE MATERNO PÓS-ALTA DO RECÉM-NASCIDO PREMATURO EL ESTRÉS MATERNO DESPUÉS DEL ALTA DEL RECIÉN NACIDO PREMATURO

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ABSTRACT

Objective: to identify the level of maternal stress after discharge of the premature newborn from the Neonatal Intensive Care Unit. Method: this is a quantitative and exploratory study with 51 mothers of premature newborns in outpatient follow-up. Data were collected and analyzed by applying the Parental Stress Index scale. Results were presented in tables. Results: it is revealed that most mothers were young adults; 62.7% with income of up to three minimum wages; 66.6% were married / stable union; 49.0% had between 10-12 years of schooling and the average maternal stress was 49.6%, being compatible with the stress of daily life. In the correlation of the variables, there was no statistically significant difference between maternal stress and family sociodemographic characteristics. Conclusion: it is concluded that, after discharge from the hospital, the mothers presented stress compatible with the stress of daily life, which is the same faced by mothers of full-term newborns, without influence of sociodemographic conditions. It is believed that this study may contribute to the health care of families of premature newborns in the transition from hospital to home, as studies on this subject are incipient. Descriptors: Psychological Stress; Premature Newborn; Infant Care; Mother-child Relationships; Hospital Discharge; Nursing.

Objetivo: identificar o nível de estresse materno após a alta do recém-nascido prematuro da Unidade de Terapia Intensiva Neonatal. Método: trata-se de estudo quantitativo e exploratório, comr 51 mães de recém-nascidos prematuros em seguimento ambulatorial pós-alta. Coletaram-se e analisaram-se os dados pela aplicação da escala Índice de Estresse Parental. Apresentaram-se os resultados em forma de tabelas. *Resultados*: revela-se que a maioria das mães era composta por adultas jovens; 62,7% com renda de até três salários mínimos; 66,6% eram casadas/união estável; 49,0% possuíam entre 10-12 anos de estudo e a média de estresse materno foi de 49,6%, sendo compatível ao estresse de vida cotidiano. Observa-se que, na correlação das variáveis, não houve diferença estatística significativa entre o estresse materno e características sociodemográficas familiares. Conclusão: conclui-se que, após a alta hospitalar, as mães apresentaram estresse compatível com o estresse de vida cotidiano, o mesmo enfrentado por mães de recém-nascido a termo, sem influências das condições sociodemográficas. Acredita-se que este estudo pode contribuir com a assistência em saúde de famílias de recém-nascidos prematuros, na transição do hospital para casa, pois são incipientes os estudos sobre este assunto. Descritores: Estresse Psicológico; Recém-nascido Prematuro; Cuidado do Lactente; Relações Mãe-filho; Alta Hospitalar; Enfermagem.

RESUMEN

Objetivo: identificar el nivel de estrés materno después del alta del recién nacido prematuro de la Unidad de Cuidados Intensivos Neonatales. Método: se trata de un estudio cuantitativo y exploratorio con 51 madres de recién nacidos prematuros en seguimiento ambulatorio después del alta. Los datos fueron recolectados y analizados aplicando la escala del índice de Estrés Parental. Los resultados se presentaron en tablas. Resultados: se revela que la mayoría de las madres eran adultos jóvenes: 62.7% con ingresos de hasta tres salarios mínimos: 66.6% eran casados / unión estable: el 49.0% tenía entre 10 y 12 años de escolaridad y el estrés materno promedio fue del 49.6%, siendo compatible con el estrés de la vida diaria. En la correlación de las variables, no hubo diferencia estadísticamente significativa entre el estrés materno y las características sociodemográficas familiares. Conclusión: se concluye que, después del alta del hospital, las madres presentaron estrés compatible con el estrés de la vida diaria, que es el mismo que enfrentan las madres de recién nacidos a término, sin influencia de las condiciones sociodemográficas. Se cree que este estudio puede contribuir a la atención médica de las familias de recién nacidos prematuros, en la transición del hospital al hogar, ya que los estudios sobre este tema son incipientes. Descriptores: Strés Psicológico; Recién Nacido Prematuro; Cuidado del Lactante; Relaciones Madre-Hijo; Alta Hospitalaria; Enfermería.

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INTRODUCTION

It is believed that the premature birth of a child is, in most situations, an unexpected and unplanned event in the parents' life, a condition that impacts the newborn's expectation planning and causes changes in family dynamics and routine. New demands arise and the social roles of parents are altered by the need for intensive care of the newborn in a critical environment. In addition, parents need to suddenly adapt to the condition of parents of a premature newborn, and this new condition puts them in an immediate experience of suffering, helplessness, sadness, loneliness, pain, and unpredictability of the clinical situation of the newborn child.¹

The hospitalization of premature newborns, due to their vulnerability, promotes the separation of parents and children, interfering in the formation of attachment and causing emotional distancing between the parties.²⁻³ It can be shown the adaptation and reactions of mothers and fathers regarding the hospitalization of premature infants in the Neonatal Intensive Care Unit (NICU), since, since the hospitalization, different feelings related to prematurity, financial and social issues emerge among others by mothers and fathers.³

In this sense, parents are now experiencing a new and stressful situation, which generates feelings of insecurity, fear and conflict during the hospitalization period, interfering with parental competence, believing that, as they were not able to lead to gestation to term, do not feel confident to care for their child.⁴ It is detailed that the feelings experienced by parents, such as anxiety and depression, can affect the increased perception of child vulnerability and cause greater use of health services.^{2,5}

It is inferred that the nursing and health professional, knowing and understanding the repercussions of the birth and hospitalization of premature newborns for their parents and relatives, can promote family care to minimize the stressful aspects found in the NICU environment and develop individualized attention, especially in view of maternal needs. In this way, parental competence can develop in a healthy way and contribute to parents' self-confidence in care after discharge from the NICU.

It is understood that the health team needs to guide and monitor the performance of parents in child care, since the hospitalization period, so that they feel safe to offer this care to their child when they are at home without the support of the NICU team, offering this assistance continuously in the post-discharge period, diagnosing deficits and intervention needs in the multiple aspects involving child care, promoting vigilant, humanized and individualized care. Due to the condition of being premature, growth and

development monitoring and evaluation of the child over a long period of time is required to prevent further hospitalizations. However, it is warned that the stress experienced by parents in the care of the premature, after discharge from the NICU, deserves professional assessment and attention, as it may interfere with parental competence and reflect negatively on the care of the premature.

After discharge, it is reported that the family is responsible for the care of the premature, however, it is the mothers who, in most cases, perform the competence of comprehensive child care at home. In this sense, the health team is required to meet the multiple needs of this mother, availability, sensitivity, attentive listening and tools that help identify stressful events experienced, especially by the mother, that may compromise the care of the premature newborn.

For the assessment of stress related to the mothers of children who experience or have experienced hospitalization of their child, particularly of premature NICUs or intermediate care units, the Parental Stress Index (PSI) scale is used),⁸ already used in other countries ⁹⁻¹⁰ and translated and adapted in Brazil ⁹, called Parental Stress Index (PSI).

It is possible, through the application of the Parental Stress Index scale, to identify early the stress experienced by mothers of premature newborns after discharge from the NICU. It can be possible, through the results obtained through the application of this instrument, to health professionals, appropriate to propose interventions to reduce the stress experienced by mothers and strengthen them in their competence and self-confidence in the care of the premature and the follow-up of the child, as well as how to foster the interrelationship between nurses in the hospital and primary health care units in the construction of a unique therapeutic project for monitoring premature infants.

OBJECTIVE

• To identify the level of maternal stress after discharge of the premature newborn from the Neonatal Intensive Care Unit.

METHOD

This is a quantitative, exploratory study, part of the project entitled "Repercussions of prematurity: maternal stress and metabolic programming after hospital discharge", which refers to a follow-up study of mothers and their premature children from birth to six months after the discharge from the NICU. The project was approved by the Ethics Committee on Research with Human Beings of the State University of Western Paraná under No. 385.370 and CAAE No. 16348813.7.1001.0107.

This manuscript refers to the post-discharge follow-up stage in which the Parental Stress Index scale was applied to the mothers of these preterm infants. The study was conducted at the outpatient follow-up of a preterm infant at a teaching hospital in the western region of the state of Paraná, from August to December 2015. The consenting mothers signed the free and informed consent term (FICT) to approve their participation in the research, which met the formal requirements contained in the national and international regulatory frameworks for research involving human beings.

The study included mothers of premature newborns who were followed at that location and period. It is reported that the mother was a research participant because she is commonly the main caregiver of the baby and because she is the family member most present in the care of the child, from hospitalization in the NICU to regular appointments at the follow-up outpatient clinic.

Inclusion criteria were: mothers of premature newborns less than 37 weeks of gestational age at birth; no congenital anomalies; who, after birth, remained in the NICU of the study hospital and who followed up the child at the outpatient follow-up of the risk hospital of the study hospital, particularly between the third and sixth months after discharge from the NICU.

Mothers of premature newborns left for adoption were excluded; mothers with psychiatric problems reported in their child's medical records; mothers who reported continuous use prescription drugs (anxiety or depression): mothers with clinical complications or who died during the study; illiterate mothers, since the Parental Stress Index scale is self-applicable; teenage mothers without responsible caregiver; mothers who did not attend appointments at the outpatient follow-up of the preterm infirmary of the hospital during the study period.

The sample of this study consisted of 51 mothers, with a sufficient sample size to allow an α level of 0.05, a statistical power of 0.80 and an average size effect of 0.4 for simple linear regression.

After discharge from the NICU, the mothers were scheduled to return to the outpatient followup of the risk hospital at the study hospital, and the Parental Stress Index scale was applied on the day of return for the children's medical follow-up.

The Parental Stress Index scale is composed of 120 items, of which 19 items refer to life stress, consisting of family routine events that may influence stress, and 101 items that correspond to two domains: Child Domain and Domain of Parents, whose sum generates Total Stress. These domains are linked to 13 subdomains, six related to the child domain and seven related to the parent domain. In the Child Domain, it is pointed

out that certain characteristics of this could be the main factors that would contribute to the general stress of the parent and child system. The Parent Domain may indicate sources of stress / dysfunction of the parent and child system, whose parents should be referred for evaluation and professional follow-up if levels above the 90th percentile are detected.⁹

Data was analyzed according to the guidelines of the Parental Stress Index scale, with Likert-type responses and a range from one to five, corresponding to: totally agree (5); I agree (4); not sure (3); strongly disagree (2) and strongly disagree (1). The result is obtained, firstly, in absolute number or gross score, being transformed into percentile by means of the normative sample table, in which stress scores are classified as: normal stress when the percentiles are between 16 and 84; high stress to the 85th and 89th percentiles and a score equal to or above the 90th percentile. which represents a clinically significant stress level.8

Correlation of maternal stress data with the sociodemographic conditions of the mothers was performed using the Monte Carlo method, which can be described as a statistical method, which uses a sequence of random numbers to perform a simulation, as a way of obtaining numerical approximations of complex functions considered significant to those correlations with p <0.05.

RESULTS

that lt is revealed the maternal sociodemographic characterization identified them as to age, income, occupation, marital status, education and number of children; Thus, of the 51 women participating in the study, 17 (33.3%) were characterized as young adults and 26 (50.9%) had formal work as occupation, noting that none of the mothers identified themselves as unemployed. Regarding marital status, 34 (66.6%) were married / stable union and 32 (62.7%) had a family income between one and three minimum wages at the time of data collection; Regarding mothers' education, although 25 (49.0%) reported having between ten and 12 years of schooling, 17 (33.2%) had less than nine years of education, which characterizes a risk to the child's health.

In addition, according to the number of children, besides the premature newborn, among the mothers participating in the study, 29 (56.8%) had no other children; therefore, the majority of the study sample consisted of primiparous mothers, and regarding other experiences in the NICU, 28 (54.9%) did not report, 19 (37.2%) never had them and four (7, 8%) mothers had already had other experiences in the NICU.

Table 1 shows the scores obtained in the measurement of maternal stress after discharge from the NICU through the PSI.

Table 1. Maternal stress scores after discharge from the NICU premature newborn. Cascavel (PR), Brazil, 2015.

Maternal stress level	Averag	Median	Minimu	Maximu
	е		m	m
Child's domain	46.9	53.5	0	85
Parent's domain	37.9	41	1	95
Total stress	42.0	47.5	4	81
Life stress	74.9	80	1	99

In the evaluation of maternal stress by the PSI, it was evidenced that, after hospital discharge, the highest scores found refer to Child Domain (+46.9), as well as life stress (+74), which denotes that the daily routine of family routine tasks associated with premature care increases maternal yearnings (Table 1).

In this study, it was observed that the mean maternal stress identified by the total stress score (42.0) identifies that maternal stress is compatible with the classification of PSI as normal daily stress. It is noteworthy that this level of stress does not require referrals to specialists, however, the close monitoring of the health team, from both the outpatient clinic and Primary Health Care, will contribute to the management of premature care at home with a view to empowering the mothers to perform their parental competence in a healthy way.

Table 2 shows the relationship between stress levels in percentiles and maternal sociodemographic variables.

Table 2. Maternal sociodemographic variables and the relationship with stress level.

Cascavel (PR), Brazil, 2015.							
	Lower stress						
	level		Higher level of stress		P-		
		o 50)	(51 to	0100)	value***		
Analyzed variable	AF*	RF**(%)	AF*	RF**(%)			
Maternal age (years)							
Up to 14	1	3.7	0	0.0			
15 to 19	3	11.1	6	25.0			
20 to 24	11	40.7	6	25.0	0.637		
25 to 29	2	7.4	3	12.5			
30 to 34	6	22.2	5	20.8			
35 or more	4	14.8	4	16.7			
Maternal occupation							
Autonomous	1	4.0	0	0.0			
Informal worker	1	4.0	1	4.2	0.727		
Formal worker	12	48.0	14	58.3			
Housewife	11	44.0	9	37.5			
Family income (Minimum wage)							
Less than 1	1	4.2	1	4.3			
From 1 to 3	15	62.5	17	73.9	0.721		
From 4 to 6	7	29.2	3	13.0			
More than 6	1	4.2	2	8.7			
Marital status							
Stable Union/Married	19	76.0	15	62.5			
Single	5	20.0	9	37.5	0.268		
Divorced	1	4.0	0	0.0			
Education (years)							
Less than 4	0	0.0	1	4.2			
5 to 9	7	26.9	9	37.5			
10 to 12	12	46.2	13	54.2	0.107		
More than 12	7	26.9	1	4.2			
Number of children appart from							
the premature							
0	16	59.3	13	54.2			
1	6	22.2	5	20.8			
2 3	3	11.1	3	12.5	0.980		
	1	3.7	1	4.2			
4	1	3.7	2	8.3			
Not informed	15	55.6	13	54.2			
Experience in neonatal unit							
Yes	1	3.7	3	12.5	0.583		
No	11	40.7	8	33.3			
* Absolute Frequency (n) ** Relat	ivo Er	00110001 (0/)	*** **	onte Carlo Permu	tation Tost		

^{*} Absolute Frequency (n). ** Relative Frequency (%). *** Monte Carlo Permutation Test P-value.

In the correlation of maternal stress data with the sociodemographic conditions of the mothers, there was no statistically significant difference (p> 0.05), representing that, regardless of age, occupation, family income, marital status, education, number of children in addition to the premature newborn and previous experiences of mothers in the NICU, the level of maternal stress

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at home did not increase, however, primiparous women had a higher level of stress than women who already had other children.

DISCUSSION

In maternity, it is required that adaptations and changes are made in the daily scenario of families, especially related to the empowerment of parents. Events related to being a mother can be experienced positively through joy and pleasure in caring, but also occur negatively, given the difficulty in performing care, feelings of anguish, frustration, irritation and, consequently, the stress,^{5,11} particularly in the generation of having a premature experience of child hospitalized in a NICU, such as the mothers participating in this study.

The mechanism of reaction of the organism is awoken, in mothers of premature newborn experiencing the hospitalization situation when there is the occurrence of a stressful event, requiring adaptation before this. 12 Mothers find themselves, after overcoming the stress generated during the hospitalization of their children in NICU, facing a new challenge close to hospital discharge and receiving the newborn at home: to assume the role of preterm caregivers full time. Thus, greater or lesser stress can be generated according to the sociodemographic characteristics of families after discharge from the NICU preterm newborn, but compatible with daily life stress, as observed in this study.

Maternal age becomes an important factor regarding perinatal outcomes, as well as the need for the woman to be emotionally and physically prepared to take on the child's responsibilities and care. It is noted that parents with higher education, older and higher income tend to have greater knowledge about the typical development and acceptable behaviors of their children, causing higher expectations of their children, and these aspects may or may not influence maternal stress.

It is noteworthy that, in this study, maternal age, education and income of the mother did not present statistically significant differences, thus revealing that these variables did not show a direct relation to the increase or not of maternal stress. This result was similar to another study conducted with mothers of premature newborns in which age and education were not statistically significant regarding maternal stress level.¹⁴

In this study, the mothers who had formal occupation among those who had the highest stress level, with scores between the 50th and 100th percentile were identified. Thus, it is evident that leaving the child with another caregiver at home or in day care centers and going to work sets an element that triggers greater maternal concern and increases the level of stress.

Low socioeconomic status, identified in this study, may be associated with other factors such as inadequate nutrition, excessive workload, psychological and physical stress, and poor health care, ¹⁵ However, there is no statistical significance with regard to increased maternal stress due to the family income of the participating women.

It is pointed out that mothers who experienced the hospitalization of a preterm child in NICU face completely different scenarios than mothers who had their children at term and, in these circumstances, there is the confrontation and experience of a phase of maternal stress because these low birth weight preterm babies require special care and attention. 16 Moreover, another study demonstrates that the NICU environment worsens this situation, as it is highly technological, has some particularities, such as excess light and constant noises, becoming a barrier to mothermother interaction. due to the complexity of the equipment and excessive handling by the health team.¹⁷ It is noted, however, that there was no evidence of increased maternal stress scores after discharge requiring specialized follow-up. Thus, it can be inferred that being with the child at home is less stressful than the moments experienced during hospitalization.

In this study, it was found that mothers who had more children, in addition to the preterm whose hospitalization followed in NICU, had lower stress level than mothers who had fewer children, and this can be explained by the fact that women who had previously experienced motherhood have greater conviction in successfully carrying out baby care activities.¹⁴

In addition, mothers who had previous experience of hospitalization of a child in the NICU had lower stress levels than those who had no experience. It can be said, therefore, that previous experience in NICU can characterize a positive aspect in the experience between mother-baby related to greater confidence in the care of a preterm newborn. However, it is recalled that the previous experience of hospitalization of a preterm child in an intensive environment does not represent that the mother will have full security in the development of baby care activities in the home environment.¹⁵

It is important, because the hospitalization of a child in NICU proves to be a source of maternal stress, to know the experiences of the mother in the hospital environment, as well as concerns about her and the newborn's health, social conditions and family, which can trigger maternal psychological distress. The necessary professional support is provided for better health outcomes for children and families, although the average maternal stress found in this study was determined to be compatible with people's daily life stress.

In this sense, it is pointed out, given the individual needs of each family, that the health team can act together to improve the bond and the interaction between parents and children and to facilitate the resolution of the problems faced. Professional support can therefore be favored to reduce life stress and increase maternal self-confidence in child care, 17 since the long period of hospitalization of the baby and the deprivation of affection and affection can increase the stress of the mother and family, interfering in the continuity of bonding and attachment. 7

It is warned that anxiety and stress may be higher in parents and families who do not have access to adequate support from health services, ⁴ especially after hospital discharge, because, in addition to the enthusiasm of taking the preterm newborn to At home, families may encounter difficulties in caring for them in the home environment, which may be associated with lack of information and failure in the communication process between health team professionals and family.^{6,16} Therefore, it is emphasized the importance of ensuring access and satisfaction of a priori families' needs related to preterm newborns.

In this sense, according to the study data, it is possible to say that, although hospital discharge mitigates maternal stress, at this time, challenges and difficulties, insecurities and concerns may arise, often resulting not only from lack of information, but also from the lack of information. the presence of empirical or incomplete knowledge provided by the culture cycle that involves the family and the community. ¹¹ By improving the quality of the care process for atrisk newborns, a more welcome transition from home to baby can be provided, resulting in adequate care by parents and minimizing future hospitalizations of these preterm infants. ²

lt understood that, among professionals, nurses, in their role as educators, can facilitate the family experience in the transition from the NICU to home, through continuous guidance on neonatal care, still in the intensive environment, that promote safety, tranquility and empowerment of parents for continuing care of the newborn at home. 18-9 It is believed that nurses play an essential role in interacting with the family, particularly with the mother, to foster bonding with the newborn, especially in stimulating active participation in care and, consequently, making her more capable in the care of her maternal competence.²⁰

CONCLUSION

It is concluded, according to the established by the Parental Stress Index scale, that the stress scores of the women who participated in this study refer to life stress, which represents the normal stress that people experience in their daily life as they develop their activities upon arrival of a new member. It can be inferred that despite the experience of maternal stress in hospitalization, mothers of premature newborns in this study present at home the normal stress experienced by mothers in general, regardless of prematurity.

Furthermore, it was found that none of the sociodemographic conditions (maternal age, maternal occupation, family income, marital status, education, number of children beyond preterm, other experiences in the NICU) interfered more than others with regard to stress experienced by women after discharge from their NICU children.

However, the need for future studies to assess the interference of sociodemographic conditions on maternal stress after hospital discharge of premature newborns admitted to the NICU is highlighted, as there are precarious studies in this area. It is observed that the sample quantity of this study can be a fragility, which conditions the indication of studies with larger population and applied in different realities.

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